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EXAMINER	
HINES, JANA A	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	09/937,066	ALPAR ET AL.	
	Examiner	Art Unit	
	JaNa Hines	1645	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 March 2010*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *52,56,58-61,63,66 and 68-73* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *52,56,58-61,63,66 and 68-73* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on March 8, 2010 has been entered.

Amendment Entry

2. The amendment filed March 8, 2010 has been entered. Claims 1-51, 53-55, 62, 64-65 and 67 are cancelled. Claims 52, 63, 66 and 68-71 have been amended. Claims 72-73 have been newly added. Claims 52 and 58-61, 63, 66 and 68-73 are under consideration in this Office action.

Withdrawal of Rejections

3. The following rejections have been withdrawn in view of applicants' amendments and arguments:

a) The rejection of claims 52, 55-56, 58-63, 66 and 68-71 under 35 U.S.C. 103(a) as being unpatentable over Eyles et al., and Amsden et al., in view of Duncan et al;

b) The rejection of claims 52, 55-56, 58, 61-63, 66, 68 and 71 under 35 U.S.C. 103(a) as being unpatentable over Amsden et al., in view of Duncan et al;

c) The rejection of claims 53-54 under 35 U.S.C. 103(a) as being unpatentable over Amsden et al., and Duncan et al., in view of Cleary et al;

d) The rejection of claims 52-56, 58-63, 66 and 68-71under 35 U.S.C. 112, second paragraph.

Response to Arguments

4. Applicant's arguments filed March 8, 2010 have been fully considered but are moot in view of the new ground(s) of rejection. However, it is noted that Applicants amendments have caused previous grounds of rejection to be reinstated. Therefore, applicants' arguments will be addressed with respect to the new grounds of rejection and previously cited art.

New Grounds of Rejection

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 52, 56, 58-61, 66 and 68-73 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eyles (1998. Vaccine. Vol.16(7):698-707) and Amsden et al., (WO 99/57176).

The claims are drawn to a pharmaceutical composition comprising a biologically active agent capable of generating a protective immune response in an animal or human, and an immunostimulant amount of N-carboxymethyl chitosan or a salt thereof, wherein the biologically active agent and the immunostimulant amount of N-carboxymethyl chitosan or the salt thereof are encapsulated in microspheres or microparticles comprising a polymeric material of a molecular weight 94kDa or more. Claim 56 is drawn to the polymeric material having a molecular weight of 100kDa or more. Claim 58 is drawn to the polymeric material being poly-(L-lactide). Claim 59 is drawn to the biologically active agent being capable of generating a protective immune response against tetanus, diphtheria, or *Yersinia pestis*. Claim 60 is drawn to the protective agent comprising a combination of a V antigen of *Yersinia pestis* and an F1 antigen of *Yersinia pestis*.

Claim 72 is drawn to a pharmaceutical composition comprising a biologically active agent capable of generating a protective immune response in an animal or a human and an immunostimulant amount of N-carboxymethyl chitosan or a salt thereof, wherein the biologically active agent and the immunostimulant amount of N-carboxymethyl chitosan or the salt thereof are encapsulated in microspheres or microparticles comprising a polymeric material of a molecular weight 94 kDa or more, and wherein the N-carboxymethyl chitosan or the salt thereof is present in the

pharmaceutical composition in an amount of from 0.15 to 10% w/w. Claims 61 and 71 are drawn to the composition further comprising one or more the recited compounds. Claim 73 is drawn to the microspheres or microparticles being an average from 0.1 to 10um in diameter.

Eyles et al., teach intra-nasal administration of poly-lactic acid microspheres co-encapsulated with *Yersinia pestis* subunits that confer protection from pneumonic plague in mice. *Yersinia pestis* has a capsule that surrounds the bacterium and contains a protein-polysaccharide complex, which was termed the F1 subunit (page 698). Eyles et al., teach that the F1 antigen confers resistance to phagocytosis and both F1 and V antigens are protective, although there is an additive effect in the combination (page 698, col.2). Eyles et al., teach a pharmaceutical composition comprising poly-(L-lactide) microspheres co-encapsulated with *Yersinia pestis* V and F1 subunits that confer protection from pneumonic plague in mice (page 699, col.2). Eyles et al., teach that the F1 antigen confers resistance to phagocytosis and both F1 and V antigens are protective, although there is an additive effect in the combination (page 698, col.2). It is noted that the F1 peptide subunit is a glycoprotein. The commercially purchased poly-(L-lactide) has a molecular weight of 100 kDa and was used in a modified double emulsion solvent evaporation method (page 699, col.2). The microsphere encapsulated particles had a mean diameter of 5.86um (page 701, col.1). Eyles et al., teach effective vaccination requires affecting or utilizing musocal surfaces as portals of entry (page 698-699, col.2-1). Furthermore Eyles et al., teach that mucosal vaccination advantageously offers some degree of the induction of systemic immunity in concert

with local responses due to translocation of antigenic material (page 699, col.1). Eyles teach that simple mucosal applications are ineffective because of enzymatic or chemical destruction, combined with poor absorption; therefore encapsulation of antigenic material within microparticulate polymeric carriers such as poly-DL-lactide protect the vaccines from degradation and enhance mucosal and systemic absorption (page 699, col.1). Eyles et al., teach that mucosal vaccination advantageously offers some degree of the induction of systemic immunity in concert with local responses due to translocation of antigenic material (page 699, col.1). However Eyles et al., do not teach pharmaceutical compositions comprising N-carboxymethyl chitosan.

Amsden et al., teach the application of microspheres composed of biodegradable, biocompatible polymer and contains a bioactive agent dispersed therein (page 23, lines 3-6). Amsden et al., teach delivering a bioactive agent to a subject in need of treatment (page 23, lines 15-16). Examples of suitable bioactive agents include anti-proliferative agents, steroids, analgesics, narcotic antagonists, antibiotics, anti-fungals, anti-histamines, anti-asthmatics, B-blockers and anti-cancer agents (page 23, lines 18-23). Amsden et al., teach therapeutic microspheres comprising a bioactive agent being a pharmacologically active peptide, antigen, or antibody explemplified by a microsphere that bears an infectious agent antigen for vaccination (page 24, lines 1-3). Microsphere which comprise bioactive agents are incorporated within the microsphere and /or be bound to the surface (page 24, lines 3-5). Amsden et al., teach the composition formed into microspheres composed of hydrophilic polymers selected from polysaccharides such as chitosan, N,O-carbomethyl chitosan, O-carboxymethyl

chitosan, N-carboxymethyl chitosan, blends, copolymers and combinations of these polymers (page 9, lines 12-26). Amsden et al., teach the first composition being poly(lactide) and a second composition being co-glycolide or poly(glycolide) at a ratio of 85:15 , see Example 1 at page 26. Amsden et al., teach microspheres incorporated into a second polymer, which are uniformly sized microspheres dispersed throughout a gel or viscous solution or dispersed throughout a solid biodegradable polymer scaffold (page 24, lines 7-10). Amsden et al., teach that polycationic carbohydrates capable of forming particles from 99:1 to 9:1 w/w include chitin derivatives, chitosans, cationic polypeptides, polyamino acids; which are all disclosed by Amsden et al. Amsden et al., teach polymers formed into microspheres composed of poly(lactide-co-glycolide) (PGLA) and other lipophilic polymers such as polyesters including but not limited to poly-(L-lactide), poly(lactide) as well as protein or polypeptide such as poly(amino acids). It is noted that is a polymeric material has a molecular weight of 100 kDa or more.

Therefore, it would have been prima facie obvious at the time of applicants' invention to have used the known N-carboxymethyl chitosan as taught by Amsden et al., and modify the compositions to include the biologically active agents and agents capable of generating a protective immune response and providing the compositions in a microparticle formulation as taught by Eyles in order to enhance the muchoadhesive properties for the compositon that enhances mucosal adsorption, provides enhanced immunostimulant activity and confers protection from pneumonic plague. One of ordinary skill in the art would have a reasonable expectation of success by modifying

the pharmaceutical compositions as taught by Eyles including the combination of the V and F1 antigen of *Yersinia pestis* in the form of microspheres or microparticles as taught by Eyles et al., because Eyles et al., in order to protect labile vaccines from degradation while enhancing adsorption within the N-carboxylmethyl chitosan microspheres of Amsden because they are composed of biodegradable, biocompatible polymer while containing a bioactive agent dispersed therein. Thus one of ordinary skill in the art would have a reasonable expectation of success and no more than routine skill would have been required to modify the composition of Eyles to incorporate the N-carboxymethyl-chitosan of Amsden et al., into the pharmaceutical composition which already comprises a mucoadhesive combined with biological active antigens in microparticle formation to achieve enhanced mucosal absorption.

Response to Arguments

6. Applicant's arguments have been fully considered but they are not persuasive. The response to arguments regarding Eyles and Amsden are discussed below.

Applicants argue that Eyles discloses a combination of co-encapsulated antigens and adjuvant. However it is noted that the claims encompass co-encapsulation within the singular composition, therefor applicants argument is not persuasive. Moreover, Eyles in view of Amsden teach a pharmaceutical composition comprising a 1) biologically active agent capable of generating a protective immune response in an animal or human, and 2) an immunostimulant amount of N-carboxymethyl chitosan,

which is encapsulated in microspheres or microparticles comprising a polymeric material , such as poly-(L-lactide) having a molecular weight of about 100kDa.

Applicants urge that Eyles does not suggest the use of N-carboxylmethyl chitosan. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller,* 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck* & Co., 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Thus the argument is not persuasive. It is noted that, Eyles does teach effective vaccine compositions requires affecting or utilizing musocal surfaces as portals of entry; while Amsden teach vaccines that affect or utilize musocal surfaces as portals of entry have are composition formed into microspheres composed N-carboxymethyl chitosan.

Applicants argue that Eyles does not discloses associating the adjuvant or any other immunostimulant with the microparticles in order to improve immunogenicity of the microencapsulated antigen. It is the position of the Office that Eyles teach that simple mucosal applications are ineffective because of enzymatic or chemical destruction, combined with poor absorption; therefore encapsulation of antigenic material within microparticulate polymeric carriers such as poly-DL-lactide protect the vaccines from degradation and enhance mucosal and systemic absorption. Moreover, in response to applicant's argument, a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In this case,

Eyles in view of Amsden teach all the components recited within the pharmaceutical composition.

Applicants assert that Amsden does not disclose polymer microspheres comprising N-carboxymethyl chitosan as a separate component in addition to the microencapsulating polymer. Contrary to Applicants assertion, Amsden et al., teach the composition formed into microspheres composed of s N-carboxymethyl chitosan (page 9, lines 12-26). Applicants' ague about separate components, however the claims are drawn to a singular composition comprising 2 components; a biologically active agent and N-carboxymethyl chitosan, which the reference teach.

Applicants argue that Amsden et al., fails to teach microspheres that comprise an immunostimulating amount of N-carboxymethyl chitosan or salt thereof. In response to applicant's argument that the Amsden et al., reference fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies i.e., an amount of N-carboxymethyl chitosan or salt thereof are not recited in the rejected claims 52, 56, 58-61, 66 and 68-71. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns,* 988 F.2d 1181,26 USPQ2d 1057 (Fed. Cir. 1993). Furthermore, Amsden et al., teach the composition formed into microspheres composed of N,O- carbomethyl chitosan, N-carboxymethyl chitosan, and combinations of polymers. Amsden et al., teach that polycationic carbohydrates capable of forming particles from 99:1 to 9:1 w/w include chitin derivatives, chitosans, cationic polypeptides, polyamino acids; which are all disclosed by Amsden et al. Finally, no more than routine skill is involved in adjusting

the amount of a component of a well known composition to suit a particular *starting material in order to achieve the results taught in the prior art. Ex* parte Rasmussen (POBA 1959) 123 USPQ 498.

Thus, contrary to Applicants assertions a prima facie case of obviousness was established with respect to the new grounds of rejection.

New Grounds of Rejection Necessitated By Amendment

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 52, 56, 58-59, 61, 66, 68-69 and 72-73 are rejected under 35 U.S.C. 103(a) as being unpatentable over Illum (WO 97/20576) in view of Amsden et al.

The claims are drawn to a pharmaceutical composition comprising a biologically active agent capable of generating a protective immune response in an animal or human, and an immunostimulant amount of N-carboxymethyl chitosan or a salt thereof, wherein the biologically active agent and the immunostimulant amount of N-carboxymethyl chitosan or the salt thereof are encapsulated in microspheres or microparticles comprising a polymeric material of a molecular weight 94kDa or more.

Claim 56 is drawn to the polymeric material having a molecular weight of 100kDa or more. Claim 58 is drawn to the polymeric material being poly-(L-lactide). Claim 59 is drawn to the biologically active agent being capable of generating a protective immune response against tetanus, diphtheria, or *Yersinia pestis*.

Claim 72 is drawn to a pharmaceutical composition comprising a biologically active agent capable of generating a protective immune response in an animal or a human and an immunostimulant amount of N-carboxymethyl chitosan or a salt thereof, wherein the biologically active agent and the immunostimulant amount of N-carboxymethyl chitosan or the salt thereof are encapsulated in microspheres or microparticles comprising a polymeric material of a molecular weight 94 kDa or more, and wherein the N-carboxymethyl chitosan or the salt thereof is present in the pharmaceutical composition in an amount of from 0.15 to 10% w/w. Claim 61 is drawn to the composition further comprising one or more the recited compounds. Claim 73 is drawn to the microspheres or microparticles being an average from 0.1 to 10um in diameter.

Illum teaches vaccine compositions for intranasal administration wherein the compositions comprise one or more antigens and chitosan (abstract). The invention further relates to methods of enhancing the immunogenicity of intranasally administered antigens and the use of antigens in combination with an adjuvant for the manufacture of a vaccine composition for intranasal administration to immunize a mammal against a specific disease (page 1, lines 1-6). Chitosans are derivatives of chitin or poly-N-acetyl-D-glucosamine wherein the greater proportion of the N-acetyl

groups have been removed (page 2, lines 25-28). It is noted that the instant specification exemplifies water-soluble alkylated chitosan derivative or salt thereof polycationic carbohydrates as chitosans or chitin and use chitosan glutamate salt. Illum teaches chitosans are known to be mucosal absorption enhancers and upon intranasal co-administration, chitosan enhances the immune response of antigens and provide an enhanced effect upon the host (page 3, lines 1-6).The preferred concentrations of the chitosan in the compositions are in the range of 0.02 to 10% (page 3, lines 21-240. Illum teaches administration of an antigen together with a particular chitosan derivative in an intranasal composition it is possible to achieve an immune response, i.e., system and local responses to enhances both a protective IgA mucosal immune response and an IgG systemic immune response (page 3-4, lines 25-3). Illum teaches the chitosan is water-soluble and may be produced by deacetylation methods (page 5, lines 20-24). Illum teaches a method of enhancing a protective and systemic response by administering intranasally to a mammal a composition comprising an antigen and an effective amount of a chitosan (page 4, lines 5-9). Particular chitosans such as chitosan glutamate was commercially purchased (page 5, lines 25-28).

Illum teaches the compositions are formulated in the form of microspheres (page 6, lines 23-24). Illum also teaches that the compositions are typically administered parenterally (page 1, lines 20-21). Illum teach the antigens to include proteins from pathogens, recombinant proteins, peptides, polysaccharides, glycoproteins, lipopolysaccharides and DNA molecules (page 4, lines 19-21). Suitable antigens include tetanus antigens, such as the tetanus toxoid and diptheria antigens, such as the

diphtheria toxoid (pages 4-5, lines 23-1). Illum teaches the administration of intranasal compositions (page 6 lines 22-24). Example 1 teaches the preparation of an influenzae surface antigen and 1% chitosan glutamate composition. Example 1 teaches that the mice received intranasal or subcutaneous administration. The tables and figures show the levels of protection for the mice. However Illum does not teach pharmaceutical compositions comprising N-carboxymethyl chitosan.

Amsden has been discussed above as teach the application of microspheres composed of biodegradable, biocompatible polymer containing a bioactive agent and N-carboxylmethyl chitosan (page 23, lines 3-6).

Therefore, it would have been prima facie obvious at the time of applicants' invention to have used the known N-carboxymethyl chitosan as taught by Amsden et al., and modify the compositions to include the biologically active agents and agents capable of generating a protective immune response and providing the compositions in a microparticle formulation as taught by Illum in order to enhance the muchoadhesive properties for the compositon that enhances mucosal adsorption, provides enhanced immunostimulant activity and confers protection from pneumonic plague. One of ordinary skill in the art would have a reasonable expectation of success by modifying the pharmaceutical compositions as taught by Illum while enhancing adsorption within the N-carboxylmethyl chitosan microspheres of Amsden because they are composed of biodegradable, biocompatible polymer while containing a bioactive agent dispersed therein. Thus one of ordinary skill in the art would have a reasonable expectation of success and no more than routine skill would have been required to modify the

composition of Illum to incorporate the N-carboxymethyl-chitosan of Amsden et al., into the pharmaceutical composition which already comprises a mucoadhesive combined with biological active antigens in microparticle formation to achieve enhanced mucosal absorption.

Claim Rejections - 35 USC § 103

8. Claim 63 is rejected under 35 U.S.C. 103(a) as being unpatentable over Amsden and Eyles further in view of Cleary et al., (WO 96/21432 published July 18, 1996).

Both Amsden and Eyles have been discussed above as teaching a pharmaceutical composition comprising having N-carboxymethyl chitosan or a salt thereof and a biologically active agent capable of generating a protective immune response in an animal or a human; however neither teach a polymeric microparticle surface modified or coated with N-carboxymethyl chitosan or a salt thereof.

Clearly et al., teach sustained and controlled local and systemic release of active agents to adhere to mucosal surfaces (page 3, lines 9-12). Cleary et al., teach the active agents have therapeutic effects either locally, upon the mucosal tissues and underlying tissues or systemically delivered (page 3-4, lines 26-2). Cleary et al., teach mucoadhesive particles having a polymer which is the mucoadhesive itself in particulate form (page 4-5, lines 26-1). Clearly et al., teach the particles as being microspheres, microparticles or microcapsules (page 5, lines 5-6). Cleary et al., teach coating the active substance with a bioerodible mucoadhesive polymer layer (page 7, line 1). Cleary et al., teach a particle having a drug containing core and a mucoadhesive coating made

of a polymer that dissolves slowing resulting in retention of the active substance on the mucosal surface for an extended period of time (page 7, lines 5-15).

Therefore it would have been prima facie obvious at the time of applicants' invention to modify the pharmaceutical composition comprising having N-carboxymethyl chitosan or a salt thereof and a biologically active agent capable of generating a protective immune response in an animal or a human as taught by Amsden and Eyles wherein the modification incorporates the having the N-carboxymethyl chitosan at the surface of the particle as taught by Cleary et al., in order to provide sustained and controlled local and systemic release of active agents to mucosal surfaces. One of ordinary skill in the art would be motivated to modify the method of administration as taught by Amsden and Eyles because both teach the inclusion of a mucoadhesive is well known and that mucosal absorption enhancers the immune response of antigens. All the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combinations would have yielded predictable results to one of ordinary skill in the art at the time of the invention.

Claim Objections

9. Claims 63 and 66 are objected to because of the following informalities:

a) Claim 63 recites "A pharmaceutical composition comprising a polymeric microparticle surface modified or coated with N-carboxymethyl chitosan or a salt thereof

and an adsorbed onto the microparticle biologically active agent capable of generating a protective immune response in an animal or a human." However the claim appears to be missing words after "salt thereof and. " There phrase about what is adsorbed onto the microparticle biologically active agent, need clarification. Appropriate correction is required.

b) Claim 66 is objected to because of the following informalities: Claim 66 is dependant upon cancelled claim 62. Appropriate correction is required.

Conclusion

10. No claims allowed.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ja-Na Hines whose telephone number is 571-272-0859. The examiner can normally be reached Monday thru Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor Robert Mondesi, can be reached on 571-272-0956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/JaNa Hines/
Examiner, Art Unit 1645

/Mark Navarro/

Primary Examiner, Art Unit 1645